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Imagery Analysis Monthly Review

April 1979

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The information and judgments presented in this publication were derived principally from analysis of imagery. Although information from other sources of intelligence may be included for background, this publication does not reflect an all-source assessment and has not been formally coordinated within CIA. (U)

Comments and queries on the contents of this publication are welcomed. They should be directed to the analyst whose name and green line extension appear after each article. (U)

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USSR

SS-20 Force Deployments to be Completed Prior to 1985 (TSR)

Imagery-based projections indicate that if the Soviets complete a 30-base SS-20 IRBM force composed of 270 transporter-erector-launchers (TELs), it will probably occur prior to 1985. A 270-TEL force represents about the midpoint of the Intelligence Community's projection that the Soviets will deploy 250 to 300 TELs. The projected completion date is based on the current production rate for one of the system's critical components--the sliding-roof building (SRB), each of which houses one SS-20 TEL--and on the annual support base construction rate. (TSR)

Components for 54 SRBs are being produced annually at the Bryansk Guided Missile Support Equipment Plant II and the support base construction rate is currently six new starts per year. Each base has nine SRBs. A sufficient number of buildings will have been produced and new bases started by the fall of 1981 to complete a 30-base force. At the current rate of construction, at least three additional years are required after completion of the SRBs before construction of the bases is complete. Thus, for a 30-base force, SS-20 deployment should be complete by late 1984. (TSR)

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USSRImpact of Imported Technology on the Soviet Ammonia Industry (U)

Photographic analysis indicates that the Soviet Union's program to import ammonia plants based on Western technology will enable the Soviets to surpass the US as the world's leader in ammonia production capacity by 1980. As part of a major program that began in the early 1970s, the USSR is scheduled to complete 45 large-capacity imported ammonia plants by the early 1980s. The total production capacity of these plants is expected to be 19.6 million metric tons per year, about twice the Soviet's 1970 ammonia production capacity of 9.0 million metric tons. The Soviet Union also expects to complete the construction of a 2,250-kilometer ammonia pipeline system with approximately 30 distribution points as well as the construction of two port facilities to handle ammonia exports and chemical imports. (S)

According to some Soviet sources, reliance on foreign technology for the growth of the Soviet's ammonia capacity stems from the failure of the Soviet machine building industry to develop the chemical processing equipment needed for large-capacity ammonia plants. Photographic evidence indicates that the Soviets may have used some of the technology they acquired from the purchase of foreign ammonia processes and equipment to develop their own large-capacity ammonia process. They have modified the ammonia-synthesis process at several of the imported plants that use a US process and have added a combination of Soviet and foreign processing equipment. These modifications suggest that they experimented with the US process prior to putting what they claim to be their own large-capacity ammonia process into commercial use. (TSR)

The rapid growth of the Soviet ammonia industry will impact primarily in two areas--Soviet fertilizer industry and the world ammonia market. Large-scale growth is expected in Soviet nitrogen fertilizer production capacity (urea and ammonium nitrate) and the production capacity of ammonia-based complex fertilizers. The infusion of large quantities of ammonia into this expanding fertilizer industry is essential to the Soviet Union's priority program to increase agricultural yields. This growth in ammonia production capacity is also expected to generate increasing amounts of excess ammonia in an already depressed world market. Most of the excess ammonia probably will be handled initially under extensive multinational compensation agreements, insuring that the USSR will be a major exporter. (U)

For additional details on the development of the Soviet ammonia industry, see IS 79-10049K, Impact of Imported Technology on the Soviet Ammonia Industry, April 1979. (TSR)

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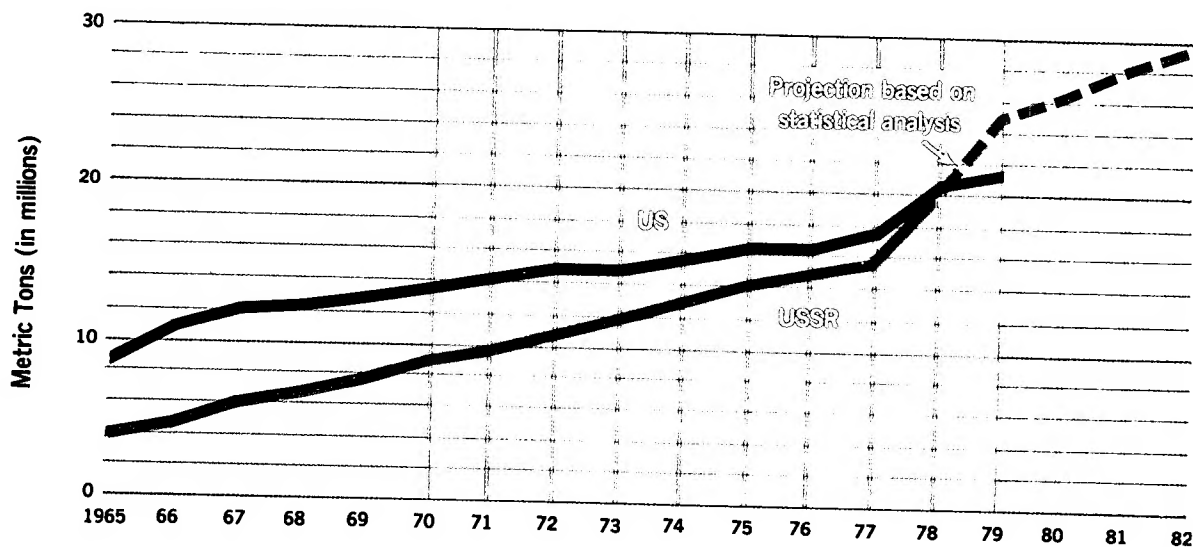
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**Comparison of the Growth of
Soviet and US Ammonia Production Capacities (U)**



| Year | USSR | US |
|------|------|------|
| 1970 | 9.0 | 13.9 |
| 1971 | 10.0 | 14.1 |
| 1972 | 10.8 | 15.3 |
| 1973 | 12.0 | 15.2 |
| 1974 | 13.0 | 15.9 |

| Year | USSR | US |
|------|------|------|
| 1975 | 14.1 | 16.6 |
| 1976 | 14.8 | 16.6 |
| 1977 | 15.6 | 17.9 |
| 1978 | 20.2 | 20.9 |
| 1979 | 25.1 | 21.5 |

Note: Soviet figures are derived from Soviet industrial sources and photographically derived plant completion estimates.

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USSRFirst Deployment of New Soviet Towed Artillery Weapon (TSR)

Photographic coverages show that some time during that period the Soviets deployed a new large-caliber towed artillery piece to an artillery brigade at Tomichi in the Far East Military District. The sighting is the first evidence of deployment of this weapon to an active ground force unit, although it had been observed previously at Perm Armaments Plant 172 in March 1976 and at various artillery and ordnance test ranges since then. (TSR)

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This is the first new towed artillery piece deployed by the Soviets since the D-30 122-mm howitzer was first observed in 1963. A recent trend in Soviet artillery has been the introduction of four new self-propelled artillery weapons. These new self-propelled weapons have been deployed primarily in maneuver divisions and in heavy artillery brigades subordinate to front commanders. The identification of this new towed weapon indicates that the Soviets still see a role for towed artillery in their combat support artillery units at the army and probably the front level. (TSR)

This new artillery piece is apparently a replacement for the M-46 130-mm field gun, which has been in service with Soviet artillery brigades and divisions for more than 20 years. At Tomichi, 18 of the new artillery pieces have been identified, and the normal complement of 36 M-46 130-mm field guns associated with the artillery brigade are no longer present. If this new weapon is to be a replacement for the M-46, we expect that 18 more will be deployed to Tomichi and that additional deployments will probably occur at other artillery brigades and probably artillery divisions. Approximately 1,700 M-46 field guns are presently held in Soviet artillery brigades and divisions. (TSR)

Little information is available on the characteristics of the new weapon that would make it superior to the reliable M-46 field gun. However, the absence of limbers and the addition of tandem axles on the new artillery piece probably allow it greater road and tactical mobility. The new weapon appears to have a larger caliber than the M-46 and, with its approximately 2-meter-longer barrel, it may be more accurate and have a range greater than the 27,500 meters attributed to the older weapon. (TSR)

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ChinaConstruction Status of the Missile Service
Tower at Songlin Missile Test Center (TSR)

Photo coverage of Songlin (Sung-lin) Missile Test Center during April 1979 shows that observable construction activity on a 76-meter-high missile service tower has resumed. The tower, when completed, will be virtually identical to one at Launch Complex D, Wuzhai (Wu-chai) Missile Test Center. Based on its location, Songlin will most likely be used to place communications satellites into geostationary orbits. However, the complexity of its support facilities suggests that Songlin may have additional functions. A comparison of the rate of construction of the service tower at Wuzhai and the present rate of construction at Songlin indicates that the Songlin tower should be externally complete by the end of 1979. (TSR)

Initial construction of the tower at Songlin began in early November 1978 and progressed at a very rapid rate until late January 1979, when the main tower structure had been completed and a large missile handling crane had been positioned on top. From the end of January until mid-April 1979 there was very little visible construction activity on the tower. Some assembly of the missile service arms took place, but installation of these arms on the tower did not begin until mid-April. (TSR)

Although it is unclear why the pace of construction at Songlin has been so erratic, it may be related to the availability of specialized construction crews that are also working on the tower at Wuzhai. (TSR)

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New OIA Publications (U)

The following reports have been published by the Office of Imagery Analysis since the last issue of the Imagery Analysis Monthly Review.

1. IS 79-10066J, [], Soviet Communications Relay Battalions: Deployment and Organization, April 1979 (TOP SECRET RUFF []) 25X1
[] 25X1
2. IS 79-10057K, [], Photographic Analysis of Soviet Attack Submarine Construction Programs, April 1979 (TOP SECRET RUFF) 25X1
3. IS 79-10049K, [], Impact of Imported Technology on the Soviet Ammonia Industry, April 1979 (TOP SECRET RUFF, []) 25X1
[] 25X1
4. IS 79-10063K, [], Chinese Electric Power Industry, January 1976 - December 1978, April 1979 (TOP SECRET RUFF []) 25X1
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